What is a Science Fair Project?

A science fair project is an investigation of a question that involves research, planning and application of the scientific method to find the answer.

The Scientific Method

The scientific method is a tool that scientists use to find answers to questions. The tool involves the following steps: doing research, identifying a problem, stating a hypothesis, conducting project experimentation, and reaching a conclusion.

Research

Your research begins when you select your project topic. Once you have chosen your topic, you'll begin your project research. HERE'S A TIP: Choose a catchy title. Make it specific. Usually, it's best for the title to be a question or something like this:

- The Effects of...
- The Study of...
- An Investigation of...
- A Comparative Study of...
- The Observation of...

Tips on How to Choose a Science Fair Project

- List your favorite activities and subjects. Now, select a project from one of those areas.
- What are some of the materials you could use with your experiment? Are the materials available at your home? You may want to select materials that are inexpensive and easy to find.
- Your school library and local public library are good places to go for more information to complete your science fair project.

Problem

The problem is the question to be answered.

Hypothesis

The hypothesis is simply your best guess as to what will happen.

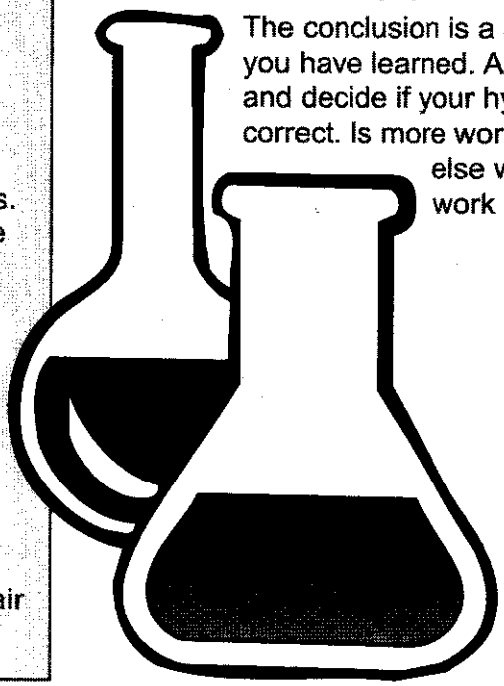
Project Experimentation

Project experimentation means testing your hypothesis. This includes more research - designing and planning for experimentation and testing. Test your hypothesis carefully by experimenting. Record everything you do. Make observations and record the results. Make charts and graphs or take pictures so others can understand what you have done.

Things that can affect your experiment are called variables. The independent variable is the variable you purposely change. The dependent variable is the variable you are observing that changes in response to the independent variable. The variables that are not changed are called controlled variables.

Conclusion

The conclusion is a summary of what you have learned. Analyze your data and decide if your hypothesis was correct. Is more work needed? What else would you do to work on this problem?



Helpful Web Sites for Your Science Fair Project

Bill Nye, The Science Guy: Episode Guide
http://nyelabs.kcts.org
First, click on the ENTER button; select the TEACHERS' LOUNGE; then click on EPISODE GUIDES.

Discovery Channel School: Science Fair Central
http://school.discovery.com/sciencefaircentral/

ISEF 2000
www.isef2000.org
This site provides all kinds of valuable information, including mandatory science fair project rules and guidelines.

The Internet Public Library: A Science Fair Project Resource Guide
http://www.ipl.org/youth/projectguide/

Cyber Fair: Steps to Prepare a Science Fair Project
http://www.isd77.k12.mn.us/resources/cf

The Kids Guide to Science Fair Projects
http://setmms.tusd.k12.az.us/~jtindell/

S.C. DHEC's Office of Solid Waste Reduction and Recycling
www.scdhec.net/recycle

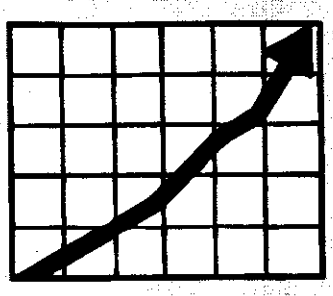
S.C. Energy Office
www.state.sc.us/energy

Science Project Guidelines
http://atlas.ksc.nasa.gov/education/general/scifair.html

Science Fairs Home Page
http://www.stemnet.nf.ca/~jbarron/scifair.html

Tips for a Great Display

- Check with your teacher to see if your school has any specific guidelines on the size, style or shape of the display.
- Keep the display simple - include only the essentials.
- Let the headlines tell the story - no lengthy descriptions.
- Check your spelling.
- When possible, use color to clarify information (charts, diagrams and graphs).



- Use photographs or drawings to help show what was done.
- Make the display as neat as possible. If you have access to a computer to make charts, graphs and labels - that's fine. If you don't, you can still make an attractive, neat and effective display. Use a stencil and ruler if possible. If you have to use a pencil, carefully go over the pencil lines with a dark marker.
- Let the teacher or science fair chairperson know early if the display needs electricity or other special arrangements.
- Use safe, durable materials. Make sure anything used in the display meets school safety standards.
- Have magazine articles, brochures and other materials to place in front of your display.